

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) An array of RF antenna elements or sub-arrays, said array comprising:

a plurality of antenna elements or sub-arrays spatially distributed over an array aperture;

at least some of said antenna elements or sub-arrays each including at least one active antenna element and at least one parasitic element associated with said active element, and at least one controllably variable reactance load connected to said at least one said parasitic element; and

an array controller connected to control at least said variable reactance loads thereby to control, at least in part, a predetermined characteristic of said array.

2. (Original) An array as in claim 1 wherein said array controller is also connected to control RF signals being fed to/from said active elements thereby to control, at least in part, a predetermined characteristic of said array.

3. (Original) A method for controlling at least one predetermined characteristic of an array of RF antenna elements or sub-arrays, said method comprising:

arranging a plurality of antenna elements or sub-arrays spatially distributed over an array aperture;

including in at least some of said antenna elements or sub-arrays at least one active antenna element and at least one parasitic element associated with said active element, and at least one controllably variable reactance load connected to said at least one parasitic element; and

controlling changes in at least said variable reactance loads thereby to control, at least in part, a predetermined characteristic of said array.

4. (Currently Amended) A method as in claim 23 further comprising:

controlling RF signals being fed to/from said active elements thereby to control, at least in part, a predetermined characteristic of said array.

5. (Original) A method for providing a reconfigurable antenna, said method comprising:

selectively placing controlled parasitic elements in the aperture of plural antenna elements in a phased array; and

controlling said parasitic elements to change the operational characteristics of the corresponding antenna elements.

6. (Original) A method as in claim 5 wherein said parasitic elements are controlled by either switching load values in and out that are connected to the parasitic elements or by applying control voltages to variable reactance circuits.

7. (Currently Amended) A method as in claim 6 wherein at least some of said variable reactance circuits include a ~~reactor~~varactor.

8. (Currently Amended) A method as in claim 5 wherein parasitic elements are controlled by use of a feedback control subsystem that adjusts RF properties of the parasitic components based on an observed metric.

9. (Currently Amended) A method as in claim 5 wherein the parasitic elements are controlled to effect changes in at least one of the group of characteristics consisting of directivity, frequency tuning, instantaneous bandwidth, polarization and radar section.

10. (New) An array as in claim 1 wherein:
said array controller is configured and connected to independently control different antenna elements.

11. (New) A method as in claim 3 wherein:
said controlling step includes independent control of different antenna elements.

12. (New) A method as in claim 5 wherein:
said controlling step includes independent control of different antenna elements.

13. (New) An array as in claim 1 wherein:
said array controller is configured and connected to control the RF/electrical properties of the at least one parasitic element as well as the phase of an associated antenna element or sub-array thereby achieving control over at least an array beam pointing angle.

14. (New) A method as in claim 3 wherein:

said controlling step includes controlling the RF/electrical properties of the at least one parasitic element as well as the phase of an associated antenna element or sub-array thereby achieving control over at least an array beam pointing angle.

15. (new) A method as in claim 5 wherein:

said controlling step includes controlling the RF/electrical properties of the at least one parasitic element as well as the phase of an associated antenna element or sub-array thereby achieving control over at least an array beam pointing angle.

16. (New) An array as in claim 1 wherein:

said array controller includes a digital beamformer circuit from which information is extracted to at least assist in control of said at least one parasitic element.

17. (New) An array as in claim 16 wherein:

said digital beamformer circuit also provides phase control for said antenna elements.

18. (New) A method as in claim 3 wherein:

said controlling step includes at least some digital beamformer control of said at least one parasitic element.

19. (New) A method as in claim 18 wherein:

said controlling step also includes at least some digital beamformer control of the phase of said antenna elements.

20. (New) A method as in claim 5 wherein:

said controlling step includes at least some digital beamformer control of said at least one parasitic element.

21. (New) A method as in claim 20 wherein:

said controlling step also includes at least some digital beamformer control of the phase of said antenna elements.